

REMARKS/ARGUMENTS

In paragraph 8 of the Office action, claims 1, 2, 5, 10-13, 16, 21, 22, and 28 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Taylor (U.S. Patent No. 4,992,933). It is respectfully submitted that the method of operation of Taylor and the method of operation of the present invention as claimed in claim 1 are very different. In the invention claimed in independent claim 1, the data originally held by each processing element is passed along the rows or columns until each processing element in the row or column receives the data originally held by every other processing element in the row or column. Then each processing element selects from amongst all the data that has been received based on the processing element's position in the array. As discussed in the last response, Taylor discloses a method in which the data is moved a number of steps, with each piece of data arriving at the appropriate processing element at the end of the loop. A processing element need only output the last piece of data it receives.

Claims 1, 12, and 28 have been amended to recite that the array is greater than a three by three array to remove trivially sized arrays (for which the loop of Taylor may overlap with the language of the claims) from the scope of the claims. Support for the "originally held" language is found, for example, in FIG. 16A – 16H and the corresponding description in paragraph [0069] of the application as filed.

The examiner asserts that Taylor discloses in Col. 9, line 65 – Col. 10, line 38 and fig. 7a and 7b the shifting of data along either the rows or columns until the plurality of processing elements in the rows or columns have received the data held by every other processing element in that row or column. Although the examiner asserts that "every processing element in the matrix receives data as it is being shifted from a different processing element" and that "collectively, every element receives data held by every element," Taylor does not disclose the amended language. Amended independent claim 1 recites that each processing element receives all the data originally held by every other processing element in that row or column. See FIG. 16A – 16H of the application as filed. Taylor discloses:

For ease of illustration the algorithm is shown for an 8 by 8 processor array in FIGS. 7a and 7b. It can easily be developed for a 32 by 32 processor array. The algorithm runs in two steps. The first runs for four cycles and has the NEWS

setting shown in FIG. 7a. The second step runs in one cycle and is simply a global shift west. This has the NEWS setting shown in FIG. 7b. The algorithm takes $1+n/2$ cycles to implement X-axis reflect on an n by n array (in even). (emphases added) Column 10, lines 10-19.

If the algorithm runs for four cycles as shown in FIG. 7a and for one cycle as shown in FIG. 7b each processing element has not received all of the originally held data from every other processing element in either the row or the column in which the processing element is located. It is applicant's position that the examiner has not demonstrated that Taylor anticipates amended independent claim 1. Accordingly, it is respectfully submitted that the rejection of independent claim 1 under 35 U.S.C. § 102(b) on the basis of Taylor be withdrawn.

With respect to independent claim 12, that claim recites "shifting the originally held data along either the rows or columns in the array a number of times equal to $N-1$ where N equals the number of processing elements in the rows and columns." The effect of such a shift is that each processing element will receive the data originally held by every other processing element in that row or column. Taylor has not been shown *by citation to the reference* to operate in such a manner. For that reason, it is respectfully submitted that the rejection of claim 12 under 35 U.S.C. § 102(b) on the basis of Taylor be withdrawn.

With respect to claim 28, claim 28 recites substantially the same subject matter as claim 1. Therefore, for the reasons set forth above with respect to claim 1, it is respectfully submitted that claim 28 is also in condition for allowance.

Applicant chooses at this time not to present arguments in favor of the patentability of the dependent claims. Applicant reserves the right to submit arguments in favor of the patentability of the dependent claims at a later time should that become necessary.

Applicant acknowledges that claims 3-4 and 14-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Because applicant is of the opinion that the base claims from which those claims depend are now in condition for allowance, applicant chooses at this time not to write claims 3-4 and 14-15 in independent form.

The allowability of claims 23-27 over the art of record is gratefully acknowledged.

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Amdt. dated 15 February 2008
Reply to Office action of 15 November 2007

Applicant has made a diligent effort to place the instant application in condition for allowance. Accordingly, a notice of allowance for claims 1-28 is respectfully requested. If the examiner is of the opinion that the instant application is in condition for disposition other than through allowance, the examiner is respectfully requested to contact applicant's attorney at the telephone number listed below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'E. L. Pencoske', written in a cursive style.

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